Southeast Asia, including Thailand is facing new climate challenges such as flood, drought, sea level rise, and increase in temperature. The east of Thailand, which is a major economic tree plantation zone especially fruits and rubber tree, is affected by climate variation. Understanding the pattern, extent and driving factors of vulnerability is effort to facilitate climate adaptation plan.

Objectives

To assess the vulnerability index in the east of Thailand as well as farm-households.

Vulnerability analysis

Provincial Level

Indexes, which are related positively to the vulnerability, are calculated by

\[ \text{index} = \frac{s_i - s_{\min}}{s_{\max} - s_{\min}} \]

Where: \( s_i \) is the indicator for district \( i \), \( s_{\min} \) is the minimum values, \( s_{\max} \) are the maximum values.

Household Level

The Likelihood Vulnerability Index (LVI) is utilized and aggregated according to IPCC’s three contributing factors: 1) Expose 2) Sensitivity and 3) Adaptive capacity.

The Likelihood Vulnerability Index -IPCC (LVI-IPCC) is achieved by employing the formula:

\[ \text{LVI-IPCC} = (\text{exposure} \times \text{adaptive capacity}) \times \text{sensitivity} \]

Results

• The households in Khoa kitchakut district showed greater vulnerability on the natural disasters and climate variability component, livelihood component and social network component than those in Tha mai district.

• When the Likelihood Vulnerability Index -IPCC was calculated, the overall the LVI-IPCC score was higher for Khoa kitchakut than Tha mai.

Conclusion and Suggestion

Conclusion

• Provinces exposed to climate risk, sensitive in water resources, high poverty incidence and lower adaptive capacity tend to be more vulnerable to climate variation.

• Households located in the flood and landslides risk areas, lower social networks, high dependence on agriculture and less crop diversity are more vulnerable to climate variation and extreme events.

Suggestion

• Increasing household income and crop diversification as well as improving farm water management can reduce vulnerability to climate variation.

• Promoting social integration and climate related information technology can enhance the adaptive capacity at the farm-household level.

Main References


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